

CLAIMS

1. A method to monitor a microorganism that causes infectious disease of a laboratory animal, which comprises immobilizing an antigen or an antibody of
5 a microorganism that causes infectious disease of a laboratory animal onto a micro flow channel chip directly or indirectly, flowing a test sample from the laboratory animal through micro flow channel of the micro flow channel chip, conducting an antigen antibody reaction on the micro flow channel chip, and further detecting the antigen antibody reaction.
- 10 2. The method according to Claim 1, wherein said antigen or said antibody is directly or indirectly immobilized on the micro flow channel chip by electrospray deposition method.
3. The method according to Claim 1, wherein said laboratory animal is mouse or rat.
- 15 4. The method according to Claim 1, wherein said laboratory animal is mouse and said antigen is an antigen of a microorganism that causes infectious diseases selected from the group consisting of; Mouse hepatitis virus (MHV), Sendai virus (HVJ), Ectomrlia virus, Mouse adenovirus, Lymphocytic choriomeningitis virus (LCMV), Hantaan virus, Mycoplasma
20 pulmonis, Clostridium piliforme, Pneumonia virus of mice, Mouse rotavirus (EDIMV), Mouse parvovirus (MVM/MPV), Mouse encephalomyelitis virus (TMEV), Pneumonia virus of Mice (PVM), Mouse Adenovirus, Reovirus type 3, Lactose dehydrogenase elevating virus, Clostridium piliforme, Corynebacterium kutscheri, Pasteurella pneumotropica, Cilia-associated
25 respiratory (CAR) bacillus, Escherichia coli O115 a,c;K(B), Helicobacter hepaticus, Psudomonas aeruginosa, Staphylococcus aureus, Pneumocystis carinii, Giardia muris, Spironucleus muris and Helminths (pinworms).
5. The method according to Claim 1, wherein said laboratory animal is rat and said antigen is an antigen of a microorganism that causes infectious
30 disease selected from the group consisting of; Mouse hepatitis virus (MHV),

Sendai virus (HVJ), Mouse adenovirus, Hantaan virus, Mycoplasma pulmonis, Clostridium piliforme, Pneumonia virus of Mice, Rat parvovirus (KRV/H-1/RPV), Mouse encephalomyelitis virus (TMEV), Pneumonia virus of Mice (PVM), Mouse Adenovirus, Reovirus type 3, Clostridium piliforme, Corynebacterium kutscheri, Bordetella bronchiseptica, Pasteurella pneumotropica, Streptococcus pneumoniae, Cilia-associated respiratory (CAR) bacillus, Pseudomonas aeruginosa, Staphylococcus aureus, Pneumocystis carinii, Giardia muris, Spironucleus muris and Helminths (pinworms).

6. A method to use a micro flow channel chip, on which an antigen or an antibody of a microorganism that causes infectious disease of a laboratory animal is directly or indirectly immobilized, to monitor the microorganism.

7. The method according to Claim 6, wherein said antigen or said antibody is directly or indirectly immobilized on the micro flow channel chip by electrospray deposition method.

8. The method according Claim 6, wherein said laboratory animal is mouse or rat.

9. The method according to Claim 6, wherein said laboratory animal is mouse and said antigen is an antigen of a microorganism that causes infectious diseases selected from the group consisting of; Mouse hepatitis virus (MHV), Sendai virus (HVJ), Ectomelia virus, Mouse adenovirus, Lymphocytic choriomeningitis virus (LCMV), Hantaan virus, Mycoplasma pulmonis, Clostridium piliforme, Pneumonia virus of mice, Mouse rotavirus (EDIMV), Mouse parvovirus (MVM/MPV), Mouse encephalomyelitis virus (TMEV), Pneumonia virus of Mice (PVM), Mouse Adenovirus, Reovirus type 3, Lactose dehydrogenase elevating virus, Clostridium piliforme, Corynebacterium kutscheri, Pasteurella pneumotropica, Cilia-associated respiratory (CAR) bacillus, Escherichia coli O115 a,c;K(B), Helicobacter hepaticus, Pseudomonas aeruginosa, Staphylococcus aureus, Pneumocystis carinii, Giardia muris, Spironucleus muris and Helminths (pinworms).

10 The method according to Claim 6, wherein said laboratory animal is rat
and said antigen is an antigen of a microorganism that causes infectious
disease selected from the group consisting of; Mouse hepatitis virus (MHV),
Sendai virus (HVJ), Mouse adenovirus, Hantaan virus, Mycoplasma pulmonis,
5 Clostridium piliforme, Pneumonia virus of Mice, Rat parvovirus
(KRV/H-1/RPV), Mouse encephalomyelitis virus (TMEV), Pneumonia virus
of Mice (PVM), Mouse Adenovirus, Reovirus type 3, Clostridium piliforme,
Corynebacterium kutscheri, Bordetella bronchiseptica, Pasteurella
pneumotropica, Streptococcus pneumoniae, Cilia-associated respiratory
10 (CAR) bacillus, Pseudomonas aeruginosa, Staphylococcus aureus,
Pneumocystis carinii, Giardia muris, Spironucleus muris and Helminths
(pinworms).

11. A micro flow channel chip on which an antigen or an antibody of a
microorganism that causes infectious diseases of a laboratory animal is
15 directly or indirectly immobilized, and used to monitor the microorganism.

12. The micro flow channel chip according to Claim 11, wherein said antigen
or said antibody is directly or indirectly immobilized by electrospray
deposition method.

13. The micro flow channel chip according to Claim 11, wherein said
20 laboratory animal is mouse or rat.

14. The micro flow channel chip according to Claim 11, wherein said
laboratory animal is mouse and said antigen is an antigen of a microorganism
that cause infectious disease selected from the group consisting of; Mouse
hepatitis virus (MHV), Sendai virus (HVJ), Ectomrlia virus, Mouse
adenovirus, Lymphocytic choriomeningitis virus (LCMV), Hantaan virus,
25 Mycoplasma pulmonis, Clostridium piliforme, Pneumonia virus of mice,
Mouse rotavirus (EDIMV), Mouse parvovirus (MVM/MPV), Mouse
encephalomyelitis virus (TMEV), Pneumonia virus of Mice (PVM), Mouse
Adenovirus, Reovirus type 3, Lactose dehydrogenase elevating virus,
30 Clostridium piliforme, Corynebacterium kutscheri, Pasteurella pneumotropica,

Cilia-associated respiratory (CAR) bacillus, *Escherichia coli* O115 a,c;K(B),
Helicobacter hepaticus, *Pseudomonas aeruginosa*, *Staphylococcus aureus*,
Pneumocystis carinii, *Giardia muris*, *Spironucleus muris* and Helminths
(pinworms).

- 5 15. The micro flow channel chip according to Claim 11, wherein said
laboratory animal is rat and said antigen is an antigen of a microorganism that
causes infectious disease selected from the group consisting of; Mouse
hepatitis virus (MHV), Sendai virus (HVJ), Mouse adenovirus, Hantaan virus,
Mycoplasma pulmonis, Clostridium piliforme, Pneumonia virus of Mice, Rat
10 parvovirus (KRV/H-1/RPV), Mouse encephalomyelitis virus (TMEV),
Pneumonia virus of Mice (PVM), Mouse Adenovirus, Reovirus type 3,
Clostridium piliforme, Corynebacterium kutscheri, Bordetella bronchiseptica,
Pasteurella pneumotropica, Streptococcus pneumoniae, Cilia-associated
respiratory (CAR) bacillus, *Pseudomonas aeruginosa*, *Staphylococcus aureus*,
15 *Pneumocystis carinii*, *Giardia muris*, *Spironucleus muris* and Helminths
(pinworms).